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MONTHLY REVIEW

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PROVIDENCE-ATTLEBORO NUMBER

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WHAT TO LEARN

There are five things in life which we ought to learn. Here they are:

1. Learn to laugh. A good laugh is better than medicine.
2. Learn how to tell a helpful story. A well-told story is as welcome as a sunbeam in a sickroom.
3. Learn to keep your troubles to yourself. The world is too busy to linger over your ills and sorrows.
4. Learn to stop croaking. If you cannot see good in this world, keep the bad to yourself.
5. Learn to greet your friends with a smile. They carry too many frowns in their own hearts to be bothered with any of yours.—Brooklyn Eagle.

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Vol. 8 FEBRUARY No. 2

PROVIDENCE-ATTLEBORO BANQUET

The fourth annual banquet was held in Naragansett Hotel, December 11th. The annual banquet of most of the branches is a very special event and Providence-Attleboro Branch made elaborate preparation to have their fourth banquet the best ever held. We were very liberally assisted by manufacturers and supply houses and we thank them for their co-operation. We seek to have the heads of firms or their representative at our dinner, as we want them to understand more fully the work that is being done and the benefit they receive from research study by the members.

President Garrick called banquet to order and gave an outline of the progress made since organizing. He thanked all who had contributed towards the success of the branch and turned the gavel over to our Honorary President and Toastmaster, Dr. Albert W. Claflin.

We are especially fortunate in having as fine a toastmaster as can be secured for such occasions.

After greeting the guests, reading letters from those unable to attend and touching upon some interesting topics of the day, the toastmaster introduced Dr. Blum of the Bureau of Standard as first speaker.

All members of the society are no doubt familiar with the thorough manner in which Dr. Blum delivers an address and, on this occasion, he held the interest of his audience to the conclusion of his remarks. Being connected with research work for the Government, his subject naturally was along scientific lines. Special stress was laid upon the need of control, education and research. The need of keeping a record of all work handled and the method of doing same, was called to the attention of plater. The need of having solutions analyzed from time to time and a record made as to the condition, quality, etc., of the deposited metal, so as to be able to use as reference in case of trouble or when product fell below standard.

The manufacturers' attention was called to the necessity of co-operating with executive of plating and finishing department when supplies, instruments and machines of special construction were called for. The speaker outlined how one can be benefited by imparting knowledge, and advised his hearers, that if they wished to be sure of knowledge they had acquired to try to impart same to others when they would be surprised to find many points quite cloudy.

The guests showed their approval by applauding enthusiastically as the speaker thanked them for their attention.

Our toastmaster next introduced Mr. Geo. B. Hogaboom. As a thorough, practical man, Mr. Hogaboom, by his forceful address, interested his hearers. The many ways that more efficiency could be obtained was explained in a manner plain to all.

If business is to be gained, technical and practical men must work together. The speaker called attention to the special attention given research work by foreign manufacturers and warned his hearers that the only way to get and hold trade is to put brains against brains and eliminate bluff.

The toastmaster called on members of visiting branches who responded with appropriate remarks.

After a closing number by the male quartette, which rendered fine selections during the banquet, our most successful banquet adjourned.

SILVER PLATING FOR CLOISONNE ENAMEL.

By Providence-Attleboro Branch.

Enameling has been practised from very early times; it is impossible to say how long.

The Greeks and Etruscans used enamel in the decoration of jewelry and the Buzantines, who carried on the arts and crafts of Rome during the Dark Ages, worked in the cloisonne manner.

Translucent enamel, which had its origin and brought to great perfection in Italy, was composed of transparent enamel laid over the design, which was cut in the metal, generally silver, the figures being raised in low relief, so as to allow the drawing to be seen through the ground.

The base of all transparent enamels is an easy, fusible, colorless silicate or glass that is mixed with oxide of lead and is called fondant or flux, to which the desired degree of opaqueness is imparted by metalic oxides.

The metals most used for a ground are silver and gilding metal, silver-plated.

The enamel is ground to a fine powder in water and washed and the moist paste spread upon the surface of the metal. It is then fired in a muffle furnace until the enamel is melted and it adheres firmly to the metal.

The piece is finished by grinding until the enamel is flush with the metal, washed in hydroflouric acid and water, fired again and finally polished with ground pumice moistened on a felt wheel.

In regard to silver-plating, the metal for enameling a great deal depends on the enamel used and the firing of same, but if the work is not properly plated there will be trouble with the best of enamels.

A better deposit for enamel will be obtained if the bath is not too rich in metal. The best results being obtained by using one ounce of silver and one-half ounce of free cyanide per gallon.

The work should be thoroughly cleaned and flashed in a cyanide copper solution, rinsed and run through a quicking dip composed of one ounce of cyanide and one-half ounce bichloride of mercury per gallon of water, rinsed in clear water and given a strike in a strike solution, low in metal and high in cyanide, about one-quarter ounce of silver and four ounces of cyanide per gallon.

It is now ready for the silver bath, and the voltage must not read over one volt across the bus bars, or there will be trouble.

After the work has been plating for about thirty minutes, a few pieces should be removed from the bath and charged with a plain enamel flux and fired in a slow fire. If the flux should show pink upon cooling, it indicates that the deposit is not heavy enough, while a yellow tinge to the flux indicates a too heavy deposit.

In plating the work, if the anode surface is two-thirds the cathode surface, you will find that thirty minutes will give a satisfactory deposit.

Now, a word in regard to striking the articles in a copper solution: If we charge a piece of fine silver, for instance, the corner of a silver anode, with a plain enamel flux and fire it, we find a yellow tinge to our flux, but if we do the same with a piece of sterling silver, we will obtain a clear transparent flux.

So in copper striking the work before silver-plating we find that the copper beneath the silver has a tendency, when fired, to throw the silver off the fine, providing the silver deposit is not too heavy.

The explanation is not so easy to give, but the copper seems to oxidize through the silver and the results are excellent.

STRIPPING GOLD GOODS

(Removing the Green Fire Coat.)

By John H. Andrews, Providence-Attleboro Branch.

This operation is important, on gold goods of low karat especially, as the green is more difficult to remove almost in ratio to the quality of the alloy downwards.

Take for instance eight to ten karat stamped goods that have been soldered and enameled, thereby receiving three or four firings and picklings. During each operation some of the copper in the alloy is oxidized on the surface and dissolved in the pickling, leaving each time so much more gold and silver as a green alloy, which is otherwise uneffected; this must be dissolved from the goods, as it cannot be satisfactorily removed by polishing.

Suppose we have for instance some eight to ten karat emblems which are enameled and have concave backs, with very small letters stamped in the backs, it is impossible to polish these and get the green out of the letters in the backs—it must be stripped off—without spoiling the letters.

They may be wired on a low brass stringing wire, about 24 B. and S. gauge, by running the wire through the joints or loops on the backs, putting, say two dozen on a wire, and making a circle of it by twisting the ends together and then put five or six of these on a heavier triangle wire and proceed to shake and tap them in the solution, i. e., breaking the circuit—practice will indicate just how much—and as each wire shows the color, remove it and continue with the rest.

The current should be from ten to twenty volts and from one hundred and twenty-five to two hundred amperes, according to the work in hand, and is run just the reverse that it would be for depositing.

The strip may be made as follows:

Take a three-gallon crock and fit a cylinder of sheet iron inside of it connecting this to the negative wire, bend this connection over the side of the crock, so that the work rod may lie across the middle of the crock.

To each gallon of solution wanted:

Take four ounces of cyanide,

Two ounces of carbonate of copper,

Two ounces of carbonate of soda,

dissolve cyanide in one-half of water required and add the carbonate of copper. Dissolve the carbonate of soda in the rest of the water and mix the two. Hang a carbon anode in the middle of the solution and run the current for at least one hour before trying to strip any work.

Add a small piece of cyanide occasionally; also about one-half stick of phosphoric acid.

This solution must be used hot.

For small settings and delicate filigree goods, yellow prussiate of potash should be substituted for the carbonate of copper and less cyanide used.

ROSE GOLD

By Wm. Brown, Providence-Attleboro Branch

In producing this finish two solutions are important factors. First, which we call muro copper smut, consisting of muriatic acid and copper, in the ratio of one gallon muriatic acid, C. P., one and one-half pounds copper carbonate, which is mixed in earthenware jar, used cold.

After mixing, add one-half ounce iron sulphate. Take work wired for shading and clean until free from grease and dirt. Dip the articles into the muro copper smut for a few seconds then rinse in water, and plunge immediately into cyanide rinse, consisting of cyanide of sodium, 4 ounces; water, one gallon, and then rinse through water.

Next hang into hot copper, cyanide solution (copper carbonate, two ounces; cyanide sodium, 4 ounces; water, two gallons) until they have assumed a deep copper shade, which generally takes about eight seconds, using eight to ten volts.

The articles to be plated are now ready to receive the gold deposit, which should be a solution made as follows: Twenty dwt. of fine gold, reduced as fulminate or ammonium chloride of gold, which is thoroughly washed, and use just enough cyanide to pick up the gold converting it to gold cyanide. Put the gold cyanide into four-gallon jar and add four pounds carbonate of potash and hot water to nearly fill jar, usually within an inch and a half of the top. Keep this solution at 180° Fahr. or over. Let stand for two hours before using. For anodes use a couple of pieces of sheet iron. When putting articles that are to be plated suspend them into solution on wire, holding wire in hand, giving them successive taps; use 8 to 10 volts for a period of twenty to thirty seconds, when a deep heavy gold smut appears, which on some occasions can be improved by reversing the current by taking one of the anodes in one hand and the wire of work in the other and striking the wire of work in the negative, holding the anode on the positive rod for about 1/10 of a second, then rinse in a succession of hot and cold water, dry the usual way, using either sawdust or hot air dryer. The work should now be relieved with bicarbonate of sodium and water; if desired it may be given an additional bath in a fine gold-plating bath. With a little experience, some very beautiful effects can be produced in a practical and inexpensive way.

Use your wit as a shield, not as a sword. Wit without discretion is a sword in the hands of a fool.

REFERENDUM VOTE

The result of the referendum vote on the amendment to Constitution to admit certain assistant foreman platers as associate members was as follows: Those voting in favor, 183; those opposed, 348.

The Supreme President declares the amendment lost.

John E. Sterling,
Supreme Secretary.

While it is too late to make the correction, the editor and printer apologize for the error in the date of New York Banquet, given on last page of January "Monthly Review." It is too bad that mistakes happen, just when one would like to do best.

June 29th, 30th, July 1st, 2nd are the date of our Annual Convention to be held in Indianapolis.

Secretaries: Please send names of those elected to membership at once to Supreme Secretary J. E. Sterling. The editor cannot put these names on mailing list until they are certified to by Mr. Sterling.

Names of applicants for membership can be sent direct to editor, giving class of membership and address in full.

SILVER-PLATING ON GILDING METAL OR LOW BRASS FOR CLOISONNE ENAMEL

By George W. Scott, Providence-Attleboro Branch.

The articles to be silver-plated for cloisenne enameling are first strung on wire. They are then pickled off in a hot solution composed of nine parts water to one part sulphuric acid.

The articles are now ready for the black-boil, which is made from an old bright dip to which has been added a little water, and use hot.

Pass the articles through black-boil for a few seconds or until clean, and rinse in running water and then pass through a bright dip made up as follows: One part sulphuric acid and one part nitric acid to which add a small amount of sodium chloride. This bright dip should be made up the night before in order to allow the dip to cool.

After the articles are passed through the bright dip they are immediately plunged into clear running water and then into a weak mercury dip and rinsed.

Next strike in a silver strike solution which contains ten ounces sodium cyanide and one-quarter ounce silver cyanide to the gallon of water, and then hang in the silver bath which is made up as follows: Water, 1 gallon; Silver cyanide, 2 ounces; sodium cyanide, 5 ounces. Allow articles to plate for fifteen minutes, care being taken not to use over one volt; remove from bath, rinse and scratch-brush the parts to be enameled, keeping a small stream running upon the scratch-brush, using any of the ordinary scratch-brush liquids.

After scratch-brushing rinse articles off in a solution of one part sulphuric acid to 20 parts water to kill any trace of sodium cyanide that might be in the pores of the articles. Rinse and dry out quickly and thoroughly in good clean sawdust and they are ready for the enameler.

The whole success is to be very careful not to burn them when plating, and never use more than one-half to one volt.

PREPARING GOLD WORK FOR ENAMEL

By E. Sprague, Providence-Attleboro Branch.

In preparing gold work or any other work for enameling, the need for cleanliness cannot be emphasized too strongly, as unclean methods have caused more trouble in enameling than from any other cause.

A good solution to prepare gold for enamel work and remove the fire stains is as follows: One part nitric acid and four parts water.

The work should be placed in this for about five minutes during which time the solution should be kept at the boiling point.

At the end of this time the work is removed and rinsed and the parts to be enameled should be scratch-brushed, then rinsed and dried in clean sawdust, care being taken that the sawdust is clean as well as using care to see that everything is clean during the whole operation.

14K. SHADING SOLUTION

By F. Franz, Providence-Attleboro Branch.

Take fifteen dwt. of fourteen karat gold anode and roll it down thin, so it will dissolve much quicker in the acid.

Cut the gold into small pieces and place in a flask containing four ounces hydrochloric acid and two ounces of nitric acid and subject same to a gentle heat until metal is dissolved. I might mention here that we use no silver in our fourteen karat anodes and so will have no trouble from that source in dissolving the gold in the aqua regia.

If silver was present it would form a chloride of silver on the surface of the gold and make it a difficult task to dissolve the gold.

After the gold is dissolved it should be placed in a porcelain evaporating dish and subjected to a gentle heat until evaporated down to the consistency of syrup.

Next take four ounces of sodium phosphate and dissolve same in one pint of water and then add it to the metal that has been evaporated down. Take a three-gallon jar and nearly fill with water, allowing enough room to receive the dissolved metals.

Dissolve eight ounces sodium cyanide in the above and when dissolved add the metal that has been evaporated.

This solution should be kept hot, and use about 10 volts. Use either fourteen karat or carbon anodes.

PREVENTION OF ROUGH SURFACES ON STERLING SILVER WHEN FIRE-DIPPING

By John Garrick, Providence-Attleboro Branch.

After the work has been soldered or annealed it comes to the plating room covered with a black coating, which is the copper in the sterling silver that has oxidized .

And if the work comes from the drop hammers or spinners, the oil or grease should be removed by burning or by any strong cleaner.

The work should be pickled in dilute sulphuric acid, six parts water to one of the acid, to remove the oxide.

Care should be taken if pieces are flat, that they do not lay together, as the pickle cannot remove the oxide properly and the result would be a rough surface when the work is passed through the nitric acid as the nitric acid attacks the silver far more rapidly where it is clean than where it has a coating of oxide.

After the work is pickled we have a film of fine silver, the copper having oxidized out, below which is the copper just beginning to oxidize. This is what is known as fire stains.

We know if we buff a piece of work very lightly that has been pickled in the sulphuric acid, that we get a clean surface, and if we use any pressure, the fire stains begin to show.

We must now remove the film of fine silver and get down to the fire stains which is done by dipping the work in hot nitric acid.

Water put in the nitric dip, to my way of thinking, does not help it at all.

If the work is properly pickled out, the thinnest of work can be fired in the nitric dip and come out smooth.

The most trouble in the fire-dipping comes from the fact that the work is not properly pickled or the nitric acid is not kept hot.

SILVER-PLATING FOR CLOISONNE ENAMEL

By F. T. Higgins, Providence-Attleboro Branch.

In giving the following method for silver-plating, I am giving what has been gained by practical experience, especially in reference to Cloisonne Enamel.

I am aware that some platers hold that nickel added to a silver solution has no appreciable effect, but I have found in my practice that it not only deposits with the silver, but that it gives a much better result, in that the deposit is harder, and better suited to stand the firing of the enamel.

I have not as yet made an analysis of the percentage of nickel deposited with the silver, but have only judged by the results obtained, which have been uniformily good, and free from causing yellow spots in the enamel.

I prepare my solution as follows, basing the quantity per gallon:

Fused nitrate of silver, 2 ounces 15 pwt.
Nickel cyanide, 2 ounces.

Add enough cyanide to solution to stand at 15 degrees Baume. Dissolve the nitrate of silver in water and precipitate it by adding enough cyanide, being careful to add only enough to cause precipitation, after which wash thoroughly in three or four waters, then taking it up with cyanide after which it will be ready for the bath.

Dissolve the nickel cyanide with cyanide solution and add to bath.

The solution must be kept at all times at 15 degrees Baume.

The anode surface should be the maximum for the load to be plated, and run at 1 volt for three-quarters of an hour.

To keep the solution in standard condition it is well to test a few pieces each day by firing of the enamel.

Should any yellow spots show through, add one-quarter ounce cyanide of nickel per gallon to solution; should it burn through, add one-half ounce nitrate of silver (prepared as before).

To plate this class of work after dipping, I simply strike it and hang in bath, not using any mercury dip. If you desire to avoid scratch-brushing, use the following as a brightener:

Bi-sulphide carbon, 1 oz.
Silver solution, 1 quart.

Let stand for three or four days (occasionally shaking it), when it will be ready for use. Add one fluid ounce of this stock solution to the silver bath each day.

After the articles are taken from the bath and thoroughly rinsed, they should be passed through a weak sulphuric acid pickle, in order to eliminate all cyanide.

I have plated several hundred gross of pieces per day, by the foregoing formulas without any trouble.

In conclusion, I would add, that as far as I have studied the subject, the partial oxidizing of silver is the cause of yellow spots and is brought about by the oxidation of the silver plate in the process of enameling, by adding more nickel to the solution, the melting point is raised and the difficulty removed.

I have come to this conclusion, as it is well known that silver oxide enters into the composition of yellow enamel.

St. Louis.

The annual banquet, held on January 22nd, was a success in every way. While the dinner was being served we were favored in addition to the orchestra, with vocal solos by Miss Lillian Eckhardt, who was accompanied on piano by her mother, Mrs. Hugo Eckhardt. E. J. Musick, chairman of committee, in very choice words, introduced C. L. Weygandt, President of St. Louis Branch, as toastmaster. Mr. Weygandt gave a brief review of our branch and then called upon the Editor to present the activities of the whole Society. Dr. E. Combie Smith was then introduced and gave the address of the evening. His subject dealt with the striving and ambitions of men to rise above their ordinary surroundings, both individually and collectively. Dr. Smith knows how to use a good story to advantage. His address was greatly appreciated. Last but not least came our "Hedley." Mr. Richards came across with some brand new ones and included two poems for good measure. These will appear soon.

Miss Clarice Mayes gave a reading which was greatly appreciated; Miss Gladys Williams rendered a violin solo, accompanied by her sister, Miss Ellen Williams.. Remarks were made by Mr. E. Lamoureux, "daddy" of our branch; also by Mr. F. J. Hanlon, Secretary of Chicago Branch. We appreciate their visit to St. Louis. Dancing was in order and a general get-together good time had. Messages were received from our Supreme President and our Supreme Secretary. Messrs. Drochelmann and Spindler of Evansville, Ind., are regular in their attendance at our banquets.

ANTIQUE GREEN GOLD

By James Simpson,
Providence-Attleboro Branch.

There is no finish that has had its day as the green gold finish and it is still running strong.

More variations in the shade of color can be produced with the antique green finish than with any other gold finish.

By using a low voltage and less of the darkening solution and running the bath hot, the finish produced will be a light green smut and by raising the voltage and running the bath cold it can, with the addition of more of the darkener, be made to produce shades from the light green in the hot bath to almost a black.

The way to prepare the antique green gold solution is as follows: Dissolve fifteen DWT. fine gold in aqua regia, precipitate with ammonia and wash thoroughly in clean water to remove all traces of the ammonia.

Next dissolve five DWT. silver in nitric acid to which has been added a little water. Precipitate with hydrochloric acid or sodium chloride. Wash thoroughly to remove all traces of the acid.

The gold and silver now being washed can be mixed together and enough sodium cyanide added to just pick up the gold and silver.

Next take three gallons of water and add the following:

3 oz. yellow prussiate potash.
3 oz. sodium phosphate.
1½ oz. sodium carbonate.

Boil until dissolved and add the gold and silver, which has been previously picked up with cyanide, and continue boiling for about twenty minutes.

For the darkening solution dissolve five ounces caustic potash in one pint of water and add one ounce carbonate of lead. Boil until dissolved.

To darken solution, add enough of the above to obtain the shade desired.

For a very dark shade the cold bath is the best, using 8 to 10 volts, and care must be taken not to add too much of the darkener, as the smut will be too soft.

Keep the work slightly agitated while in the bath.

When dark enough, remove the work from the bath, rinse and relieve the high lights with very fine pumice or sodium bicarbonate. Rinse and dry in clean sawdust.

MECHANICAL BRASS PLATING ON STEEL.

By Geo. J. Weigand.
Providence-Attleboro Branch.

In finishing small steel parts, from the raw material to its final polishing, I first use a very strong solution of potash or caustic soda, which I believe is the cheapest and best to remove mineral oil. The oil will soon saponify the cleaning solution and then it will clean work very fast. The cleaning solution must be used very hot; if kept at boiling point it will give best results. Take work from cleaning solution and rinse. Then put through the process of burnishing with steel balls. The work is allowed to remain in tub from 2 to 6 hours or longer, according to quality of finish required.

I have secured very good results by using one pint of soap tree bark after it has been dissolved, and add 2 ounces of sodium cyanide or sal soda to each load. From burnishing barrel the work is rinsed in clean water to remove soap; put work through a muriatic solution of 1 part acid and 3 parts water; rinse, then in cyanide, wash and rinse; then work is ready for plating solution. Plate work from one-half to one hour, according to the amount of deposit wanted, in the following solution:

Water—1 gallon.
Sodium cyanide—10 oz.
Copper cyanide—7 oz.
Zinc cyanide—3½ oz.
Soda ash—2½ oz.
Amonium chloride—1 oz.

Solution should stand about 14° Be. to give best results and 90° Fahr.

After work has been given a good deposit, it is then put in burnishing barrel with shot and one pint of soap tree bark in solution and one oz. of cyanide and allowed to polish from one-fourth to one-half hour; then it is rinsed in clean water and dried. When work is dry I give it a final polishing in hardwood sawdust and a small amount of powdered crocus, shake all sawdust out, then warm work slightly and lacquer. These formulas are being used by the writer with very good results.

CHICAGO BANQUET

As per custom, the preparations for this event were carried out to completion, and the ninth annual affair, held on Saturday, January 29th, was unanimously voted by all those present to have been the most brilliant one ever held by the branch—not only was the attendance the largest, but the character of the attendance was on a par with any gathering in any field of endeavor in the big busy life of Chicago, the center of world affairs.

The audience was critical as well as appreciative, and, since this banquet has come to be looked upon as second only in importance to the Annual Convention in the affairs of the American Electro-Platers' Society, it is perhaps only natural that such should be the case.

The program was a splendid one, as is indicated by the following:

ADDRESS—Toastmaster .....C. E. Thornton
President Chicago Branch, American Electro-Platers' Society.

PAPER—"Brittleness Produced on Steel by Processes of Cleaning and Pickling".....Prof. S. C. Langdon

ADDRESS—"The Society".....O. E. Servis
Past Supreme President American Electro-Platers' Society.

PAPER—"Polarization, Cleaning and Hydrofluoric Acid in Nickel Solutions".....Dr. Oliver P. Watts
Professor of Chemistry, University of Wisconsin.

ADDRESS—"The Relation Between Manufacturers, Chemists and Electro-Platers".....Dr. Wm. Blum
Bureau of Standards, Washington, D. C.

The criticism of the papers and addresses was of the affirmative kind, and the keen appreciation of the splendid feast was shown by the compliments on every hand and the atmosphere of the University Club was certainly in keeping with the aims of the Society, since all of the surroundings denoted education and culture.

Complimentary messages of good wishes were received from Charles H. Proctor, founder of the Society; John E. Sterling, Supreme Secretary; H. H. Williams, editor. Also one from Frank C. Rushton, from his new home at Mexico City, Mexico.

Past Supreme President Joseph H. Hansjosten wired regrets that he could not be with us to maintain his speaking engagement on the program, and our Librarian, Fred J. Liscomb, very kindly consented to fill in the gap, and his speech was well done.

The paper by Dr. Oliver P. Watts, Professor of Electro-Chemistry, Wisconsin University, was given very keen attention, and it certainly was a very precise discourse upon the three topics assigned to him by Chicago Branch. The nature of the three topics are indicated in the above program, and we believe that the paper referred to, which will be published in the next issue of the "Monthly Review" will be appreciated by all the members of the Society.

The address delivered by Dr. Wm. Blum from the Bureau of Standards, Washington, D. C., was unquestionably one of the best efforts on his part that it has been our pleasure to listen to, and we have every reason to expect that his remarks will be of inestimable value.

For the first time we were honored by representation from Detroit Branch, with the presence of Mr. Lovering, Mr. Sheppard and Mr. Tompkins, who were quite welcome indeed, and whom, we believe, secured some good ideas from what they saw and heard as well as a substantiation by means of personal observation and what Chicago Branch banquets really means.

Milwaukee Branch was also represented by several of their members, and it is the hope of the members of Chicago Branch to reciprocate with them as well as with Detroit on future occasions.

CONFERENCE AT INDIANAPOLIS

In fulfilling their promise made at Rochester Convention, ex-President Walter Fraine and R. Suman, of Dayton, E. A. Lamoureux of Chicago, E. J. Musick and H. H. Williams of St. Louis, traveled to Indianapolis on February 19th to attend the annual banquet of the branch which will entertain the annual convention this year, and also to let the members of Indianapolis Branch know they were with them in their efforts to make the 1921 convention the best ever held.

The banquet was enjoyed by all present, for, after a real good dinner, which was an incentive to promoting sociability, the program of the evening was begun. Each of the above mentioned visitors was honored by being presented to the gathering, and each responded with words of praise for the work the society was doing. These remarks assisted in securing three applications for membership and two reinstatements.

A conference of the chairmen of the various convention committees with the visitors was arranged for Sunday morning, and at that time matters of great importance was discussed. The Indianapolis boys proved that they were on the job and were planning to take care of the largest number that have yet attended our annual affair, and also that the educational feature would far surpass anything we ever had. The social and entertaining committees, also the transportation, publicity and exhibit committees have already started in, and if space permitted we would like to tell of each chairman's enthusiasm. C. A. Ormsby will assist the various committees.

The following are the chairmen of committees who invite your co-operation:

Program, Publicity and Exhibits—Geo. Barrows, 1529 Sheldon Street, Indianapolis, Ind.

Educational and Convention Banquet—B. D. Aufderheide, 635 Kentucky Avenue, Indianapolis, Ind.

Entertainment—Frank McDonald, 615 Lagrande Avenue, Indianapolis, Ind.

Transportation—James Walsh, 547 Livingston Avenue, Indianapolis, Ind.

WHAT THE BRANCHES ARE DOING

Providence-Attleboro.

Meets first and third Thursdays of each month at 26 Custom House Street, Room 16. Secretary, Clayton J. Poyton, 269 Ohio Avenue, Providence, R. I.

Providence-Attleboro Branch held two meetings in November; the second was held in Attleboro, November 18th. Many subects have been under discussion and the attendance has been fair. Cleaning aluminum was under discussion at our meeting in Attleboro. Some of the members gave their experience with the metal and quite a few found that passing through caustic soda or potash rinse, then through clear nitric acid rinse, through ammonia wash to neutralize acid. Some of members clear by passing through regular bright dip.

We held two meetings in Providence during December. Our first was held December 2nd and was called to order by President Garrick, who is never absent from his chair. One application was received and one new member elected.

The Review Committee promised to have plenty of material on hand for the February issue of the Providence-Attleboro Branch number, and many members pledged themselves to have copy ready.

After deciding on all details for banquet, the meeting adjourned.

Our second meeting was held in Providence, December 16th and was called to order by President Garrick. The main topic of conversation was the banquet. All agreed that the affair was the best ever held. The committee in charge of banquet read their report, which was received with satisfaction by all members. A rising vote of thanks was given the committee for the successful conclusion of their efforts.

The subject for our first meeting in January will be: "The Promotion of the Welfare of Society."

Industrial depression and deflation naturally effects the lines that most of our members are engaged in, but as it is always best to work the hardest when things look the dullest, we shall surely keep brushed up so as to be ready when business is booming.

Boston.

Meets first and third Fridays of each month, 8 p. m., at the Quincy House. Secretary, A. W. Garrett, 37 Dorset St., Dorchester, Mass.

Our branch held an open meeting Jan. 21st, at the Quincy House, Boston, which was well attended. Two applications were received. The report of the Banquet Committe was very favorable and it should be a great success. After the regular order of business, President Mackie gave a talk on the analysis of solutions, referring to the brass solution and telling how chemistry would, and is, the only thing for the plater to know. Mr. Herrick then gave a talk on the electro-plating and its relations to the manufacture of phonograph records; telling the different solutions used in plating them. He also spoke on the plating of die casting.

The election of officers will be held at our next meeting.

Boston Branch met Feb. the 4th with President Mackie in the chair. We had a report from the Banquet Committee, which has completed arrangements for the banquet to be held at the Quincy House on February 12, 1921. One application was received.

President Mackie has been invited to give a talk to the Providence Branch on March 10th, which he will accept. A few questions were asked.

President Mackie gave one of the lessons in chemistry which he will give every meeting now, which was very interesting. The meeting closed at 10:50 p. m.

Bridgeport.

Meets third Friday of each month in its laboratory, 260 John St., Bridgeport, Conn. Secretary, Louis J. Maraffi, 744 Hancock Ave., Bridgeport, Conn.

Our January 21, 1921, meeting, an open one, and a smoker, was held in the laboratory with 35 present. President J. M. Dunn in the chair. One application was read. The House Committee reported their work completed and were discharged with a vote of thanks. Mr. Hogaboom reported his work on editing papers for the Bridgeport number of the Review completed. President J. M. Dunn gave a short talk, introducing Mr. Bissell of the Bissell Varnish Co., who gave a very interesting talk on the making of Japans and enamels, their elasticity, hardness and baking of the different grades and also on stopping off varnishes, and methods used in etching. Mr. Bissell then exhibited samples of wood finishes and Japans, and answered questions that were asked. At the close of the talk Mr. Bissell was given a rising vote of thanks.

Dayton.

Meets first Saturday of each month at the Y. M. C. A, Dayton, Ohio. Secretary, Alphonz Lamoureux, 432 E. Second St.

On Saturday evening, January 8th, Dayton Branch held their first meeting of the new year in the form of a dinner, given by the branch in the private dining room of the Y. M. C. A. and, after partaking of a very fine meal, the boys all settled back to listen to our chairman, in a very well chosen speech, introduce Dr. Wm. Wholleben, professor of chemistry of the University of Dayton, who spoke to us on the electrolytic disassociation of ions. The doctor is a very eloquent speaker, and his talk proved very beneficial, for in the two hours the doctor devoted to his talk the attention given by his many listeners proved their interest. After his address was finished he gave some very valuable answers to questions. He was given a rousing vote of thanks by those present. The doctor promised to come again and, now that he is acquainted, the society can expect something from him in the "Review."

Three applicants were elected to active membership and one application was received.

Cincinnati.

Meets on the first and third Friday of each month at 1262 State Ave. Secretary, W. J. Husing, 729 McMakin Ave., Cincinnati, O.

At our meeting, held on February 4th, the attendance was very good. It was decided to give a banquet at the Y. M. C. A. on Saturday, March 5th.

Arrangements were completed for a class in electro-chemistry, to be held at the Woodward High School every Tuesday night, under the instruction of J. F. Locke, who has had much practical experience.

The permission for this class was granted by Mr. Arundel, director of schools.

Our regular meetings on the first and third Fridays will hereafter be held at Hill & Griffith Co.'s laboratories, 1262 State avenue.

Having well equipped laboratories at both places, we believe we can now make our meetings of great interest, and appreciate every courtesy extended to us.

We invite all members of other branches to our banquet on March 5th.

Connecticut Valley.

Meets at Hartford, Conn. Secretary, Jas. A. Bagshaw, 39 Grand St., New Britain, Conn.

The meeting of the Connecticut Valley Branch was held at the home of Mr. Geo. Cartlidge, 123 Boulevard, Hartford, Conn., February 14th. After the business of the meeting had been transacted, we were surprised. Mr. and Mrs. Cartlidge had prepared a banquet for us hungry members. Remarks were in order. Everyone responded with best wishes for the society, and many difficult plating problems were discussed.

Mr. and Mrs. E. M. Stephenson invited the branch to meet Monday evening, February 28, 1921, at their home, 64 Evergreen avenue, Hartford, Conn., at 8 p. m. We accepted the invitation and expect to fill his home. A rising vote of thanks was extended to Bro. Cartlidge for his generosity in turning over his home and his hospitality, and interest in getting this branch started. Hope at next writing will have doubled our membership. Out-of-town members and applicants take Farmington avenue car from Union Depot to 64 Evergreen avenue, February 28th.

Indianapolis.

Indianapolis Branch holds its business meeting the second Saturday in each month at Hotel Denison. Secretary, Louis Mertz, 1725 Union St., Indianapolis, Ind.

A special meeting was called for February 6th. The meeting was well attended. It was decided that we hold a banquet February 19th, 1921, at the Hotel English, at a cost of $1.00 per plate, to members. Members of other branches are cordially invited. One new member was elected. Convention matters were taken up. The dates decided on were June 29-30, July 1-2, and to be held at Hotel English. The following committees were appointed: Convention Banquet, B. D. Aufderheide, Publicity, Program and Exhibits, Geo. Barrows and C. A. Ormsby; Educational, B. D. Aufderheide and A. C. Hoffman; Transportation, James Walsh; Entertainment, F. McDonald, Geo. Becktol, Ralph McCracken, Harry Maze and James Walsh. Other committees to be appointed later.

Philadelphia

Meets first Friday of each month in the Harrison Laboratory Building, University of Pennsylvania, 34th and Spruce Sts. Secretary, Philip Uhl, 2432 North 29th St., Philadelphia.

The February meeting was devoted to routine business. Three applications for membership were received and one member suspended. Our secretary was reported as suffering from the grippe.

Rochester.

Meets on the fourth Fridays. Secretary, Sylvester Gartland, 128 Bryan Street, Rochester, N. Y.

The regular meeting of Rochester Branch was held January 14th, with Mr. Raymond Lopez presiding.

A committee was appointed to make arrangements for our annual banquet and the ladies will join with us to make it a grand success.

Mr. J. J. Desmond, chemist of the North-East Electric Co., gave a very interesting talk on the method of analyzing the metal content of the commercial plating solutions by the electrolytic process. We expect to have this paper published in the Review in the near future. The meetings of Rochester Branch are held on the second and fourth Friday of each month. We wish the members' wives to please take notice and remind the members to be in attendance at each meeting.

Our president is planning to make the boys take a more active interest in the American Electro-Platers' Society. And it is up to us to give him our hearty co-operation.

The last regular meeting of Rochester Branch was held February 11th.

The Banquet Committee reported the Hotel Seneca was selected for the eighth annual banquet, to be held March 19th, 1921.

The Ladies' Auxiliary have drawn up a set of by-laws to govern their meetings and have forwarded a copy to the ladies of the New York Branch. The Rochester ladies are very enthusiastic and have a good attendance at their meetings. The auxiliary officers are Mrs. Ellsworth Fitch, President; Mrs. George Hesselink, Secretary, 242 Bryan Street.

Milwaukee.

Meets first Friday of each month at West Side Bank Building. Secretary, A. W. Ruttan, 1105 Twenty-eighth St., Milwaukee, Wis.

The February meeting of the Milwaukee Branch was called to order by President H. E. Armour. About twenty members attended.

Arrangements are being made for a banquet to be held about the middle of March, to which all the foremen platers will be invited. We also had two visitors with us—Mr. R. Hazuka of the Chicago Branch and Mr. Eichstadt of the Detroit Branch. They have attended the last two or three meetings of our branch. They both take an active part in discussions brought up by the question box and their answers are eagerly sought by the members of our branch.

Two applications for active membership were received.

Our meetings are very well attended, about 80 per cent of the members attending regularly.

Chicago.

Meets second Saturday of each month, 8 p. m., at the Briggs House, Randolph and Wells Sts., Secretary, Frank J. Hanlon, 2855 N. Richmond St., Chicago, Ill.

Regular meeting of Chicago Branch, held February 12, 1921. President Thornton, presiding.

We elected two new members; also accepted the transfer cards of Mr. T. C. Eichstadt of Detroit Branch and Mr. F. G. Musgrave of Toledo Branch.

The Banquet Committee made a nice report on same.

We had full house at meeting and the question box looked like it contained something when Mr. Librarian open it up. (These questions and answers will be reserved for Chicago number in "March.")

Newark.

Meets first, third and fifth Fridays of each month, 8 p. m., Foresters' Home, 20 Central Ave., Newark, N. J. Secretary, O. F. Carlson, 225 West Grand St., Rahway, N. J.

At the meeting of Newark Branch, held January 7th, the attendance was very small and several of the officers were absent. However, the discussions were quite lively. It was started by the reading of copy of patent on bright nickel solution, which lead to discussions of brighteners for different solutions.

It was voted that Newark Branch hold a banquet some time in April. Mr. Smith, Mr. Frey and Mr. Fields were appointed committee with full power to make arrangements for same.

At the meeting of January 21st the attendance was very large, and all officers present, and it proved a very interesting meeting.

The Banquet Committee made a report of progress, setting the time of the banquet for Saturday evening, April 9th, at Achtel-Stetters, 542 Broad street, Newark, N. J.

The following names were added to the Banquet Committee: E. W. T. Faint, O. F. Carlson, C. A. Stiehle, G. H. Piske, O. J. Sizelove and J. L. Merigold, and with these experienced veterans in charge, this coming banquet should prove the best ever.

Under the head of reading of papers and discussions, a paper on hot nickel solution, by Mr. Royal Clark, was read. This paper was one of the best and most interesting ever read before the Newark Branch. It described with fullest details experiments carried on along this line, giving formulas, temperatures, current density, and time; also giving methods of analyzing. The discussion followng was very interesting, and many questions were asked and answered.

C. H. Proctor was present as a visitor and gave a very interesting talk on hot nickel.

A rising vote of thanks was tendered Mr. Clark for his splendid paper on hot nickel.

Grand Rapids.

Meets on the second Wednesdays of the month at Vocational High School, 129 Bostwick Ave. Secretary, J. B. Hawley, 1317 Jefferson Ave., Grand Rapids, Mich.

Grand Rapids Branch met at our regular rooms at Vocational High School, 129 Bostwick avenue, February 9th.

Twelve members and two visitors were in attendance.

The Banquet Committee reported a decision to hold our annual banquet at the Livingston Hotel and to make it very quiet and to keep within reasonable cost; also to invite any friends of our organization, together with our most able assistants.

After business session, in the absence of our librarian, Chas. Whalley, Chas, Werft was called to the chair and a paper was presented by President Allen on the subject, "The Plater Executive." After a short discussion on the paper, in answer to a question, the writer gave a short talk on the reason for this paper and others that will follow.

A question by John Knape, with regard to copper cleaning and plating solution, brought on a general discussion, to which Mr. Gillard of St. Louis Branch contributed.

One application for active membership was received.

New York.

Meets every second and fourth Fridays of each month at the Broadway Central Hotel Parlors, New York, N. Y. Secretary, John Burke, 110 Glen St., Brooklyn, N. Y.

President Sterling presided at the January meetings of the New York Branch of the American Electro-Platers' Society.

Laboratory Chairman Joseph Haas, Jr., exhibited samples of black nickel deposits. He produced, in a black nickel solution containing no sulpho, cyanide salts. The samples were pronounced excellent. A paper submitted by A. Pflomm, entitled, "The Polishing and Plating of Die Casting," was read and discussed.

C. H. Proctor, father of the American Electro-Platers' Society, spoke on the necessity of up-to-date facilities in the electroplating industry and the progress made by the American Electro-Platers' Society.

Detroit.

Meets first Friday in each month at Cass Technical High School, Platers' Classroom, 2nd Avenue and Beech Street, at 8 p. m. Secretary, E. G. Lovering, 3719 Grand River Avenue, Detroit, Mich.

Pittsburgh.

Meets every first Saturday at 8 p. m. at United States Bureau of Mines Building, Forbes St. Secretary S. E. Hedden, 227 5th St., Aspinwall, Pa.

Our meeting of February 5th was turned over to Mr. E. S. Gray, who presented his pictures of the Wonderland of America, or Uncle Sam's playground, the Yellowstone National Park. The members present with their wives, children and friends had a very enjoyable evening, and the Pittsburgh Branch is deeply indebted to Mr. Gray for the evening's entertainment.

Our second annual banquet will be held on Saturday evening, April 16th, 1921. The committee reports progress. At our March meeting we expect to have a speaker who will speak on the construction of electro-plating generators. Every member should be in attendance.

St. Louis.

Meets first Saturday of each month at Barr Branch Library, corner Jefferson and Lafayette. Secretary, H. H. Williams, 4156 Botanical Ave., St. Louis, Mo.

Our regular meeting, held on February 5th, was well attended, and the papers presented by G. Lamkemeyer, J. Flannery and G. Brandt on "Nickel Solutions" were interesting. We all know something about "nickel" and had our say. Our next meeting will be on March 5th, with papers by J. H. Jordan and J. H. Hartman on "Oxidizing and Coloring of Metals."

Cleveland.

The Cleveland Branch meets every second and last Saturday of the month at 1344 East Prospect St. Secretary B. F. McCormick, 1941 West 77th St.

Grand Rapids.

Meets on the second Wednesday of the month at The Morton House. Secretary, J. B. Hawley, 1317 Jefferson Ave., Grand Rapids, Mich.

Toledo.

Toledo Branch meets 1st Thursday night each month at Toledo University Science Building, Electro-Platers' Room, corner Cherry and Page Sts. H. L. Myers, 410 Palmer St., Secretary.

Toronto.

Meets second Thursday of each month at Occident Hall, Bathhurst and Queen Streets. Secretary, Chas. Kemish, 271 Boston Avenue, Toronto, Ont.

APPLICATIONS FOR MEMBERSHIP

Boston.

William H. Lee,.....5 Action St., Boston, Mass.

Bridgeport.

John B. Beloin.....28 Boston Ave., Stratford, Conn.

Grand Rapids.

R. Jeffrey McMeekin..402 Forest Grove Ave., Gd. Rapids, Mich..

Dayton.

Thos. J. Wise.....Thomas Mfg. Co., Dayton, Ohio

Milwaukee.

Louis Zingler.....2606 Hadley St., Milwaukee, Wis.
Henry C. Hurtig.....542 16th St., Milwaukee, Wis.

Philadelphia.

F. Gabrielowitz.....812 Noble St., Philadelphia, Pa.
G. Spies.....622 Scott St., Philadelphia, Pa.
J. Asmumies.....6612 Heyman St., Philadelphia, Pa.

Providence-Attleboro.

Adolph W. Alsfeld.....

ELECTED TO MEMBERSHIP

Chicago.

Samuel J. C. Trapp.....147 S. 13th Ave., Maywood, Ill.
H. G. Lama.....Care Dunham Mfg. Co., Marshalltown, Ia.

Dayton.

Clarence Wregg.....2012 S. Limestone St., Springfield, Ohio
Geo. W. Speakman.....320 N. Cleremont St., Springfield, Ohio
J. L. Andrews.....R. R. No. 1, New Carlisle, Ohio

Indianapolis.

A. Boyd.....1043 S. Lock St., Kokomo, Ind.

Reading.

Francis J. Ott.....331 S. 3rd St., Reading, Pa.

Toronto.

Robert Stokes.....439 Barton St. East, Hamilton, Ont.
C. S. McCully.....13 Park St. North, Hamilton, Ont.
F. H. Theirs..Care Coleman Lamp Co., Queen St. and Davis Ave. .....Toronto, Ont.

TRANSFERS

F. Z. Musgrove.....Toledo to Chicago Branch
T. C. Eickstadt.....Toledo to Chicago Branch
L. M. Graham.....New York to Cleveland Branch